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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/811,781	03/20/2001	Larry D. Frederick	F8930.0000/P019	9292

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EXAMINER

GABOR, OTILIA

ART UNIT PAPER NUMBER

2878

DATE MAILED: 05/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/811,781

Applicant(s)

FREDERICK ET AL.

Examiner

Otilia Gabor

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 52-90 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 52-69 and 74-90 is/are rejected.
- 7) ☒ Claim(s) 70-73 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Priority***

1. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 119 and 120 as follows: when priority is claimed under 37 CFR 1.78 (a)(2) the Applicant must state the relationship between the applications from which the priority is claimed.

### ***Specification***

2. The abstract of the disclosure is objected to because it is not directed specifically to the claimed invention, i.e., the claimed invention does not contain the logic element and its use and it does not contain the described pair of gamma detectors used in tandem. Also the abstract discloses polyether ethyl ketone as the material for the window, however the specification and the claims disclose polyether ether ketone as the window material. Correction is required. See MPEP § 608.01(b).

### ***Drawings***

3. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 60, 79, 80, 81 and 82 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 60 recites the limitation "said flexible support sleeve" in line 2. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 79 recites the limitation "said module housing" in line 6. There is insufficient antecedent basis for this limitation in the claim.

8. Claim 81 recites the limitation "said module housing" in line 2. There is insufficient antecedent basis for this limitation in the claim.

The balance of claim 80 is rejected as being dependent from claim 79.

The balance of claim 82 is rejected as being dependent from claim 81.

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 52-69, 74-80, 83-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frederick et al. (U. S. Patent 5962855).

Frederick et al. discloses a gamma radiation detector assembly 10 used in harsh environmental applications, the assembly comprising:

- a radiation sensing element 14 such as a sodium iodide scintillator 14 which transforms radiation into light
- a light receiving element 16 such as a photomultiplier tube for transforming light into electrical impulses
- a housing 18, preferably made of titanium or stainless steel, encasing the scintillator 14 and the photomultiplier tube 16 which contains a window-like end retainer 24 and end cap 404 for letting radiation into the detector assembly and subsequently into the radiation sensing element 14.

The radiation sensing element 14 (or 414) is positioned inside a shield 30 (230) and it is wrapped around with a reflective tape 40 (strips, sheets, sheath with reflective material in liquid, powder or granular form). Between the scintillator 14 (414) and the reflector

there is a potting powder elastomer material 28. The reflective tape 40 is wrapped around with the following:

- a barrier layer 376 made of aluminized polyimide
- a thermally compliant layer 374
- a bonding material 519
- a grease layer 316
- an aluminum foil layer 318
- another bonding material 519
- a protective sleeve 150 made of stainless steel or any other material transparent to gamma rays which includes a distribution pad 160 (flat portions), made of a material capable of dispersing a concentrated force (i.e., lubricant), in contact with the scintillator, grooves (bends) 216 contacting the shield 30 for providing dynamic support for the radiation sensing element 14 (414) and rings 418 (518). The spacers driven between the sleeve 150 and the shield 30 suppress relative movement between the sleeve and the shield.

The photomultiplier tube includes a faceplate 118 and a photocathode and it is encased within an elastomeric element 58 which is further encased in a housing 60. Between the housing 60 and the detector housing 18 is an elastomeric boot 62 (elastic sleeve) with treads 52 for providing dynamic damping in axial and radial directions. The coupling between the scintillator and the PMT is done through an optical window 54.

Regarding claims 52, 56, 57, 83, 84, 85 Frederick et al. fails to disclose the specific materials as claimed for the window, the powder, the reflector and the housing

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(respectively), however it would have been obvious to one of ordinary skill in the art at the time the invention was made to use these materials since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin* 227 F.2d 197, 125 USPQ 416 (CCPA 1960).

Regarding claims 86-90 Frederick et al. fails to include the claimed spray mechanism into the system, however one of ordinary skill in the art would have been motivated to include such a spray system to clean the window from flying debris since 1) it is a well known to use a spraying hose to clean windows from debris and dirt (e.g. windshield wipers) and 2) in order to reduce the measurement errors and to increase the signal-to-noise ratio all relevant radiation needs to enter the radiation sensing region and that is not going to happen if the entering windows are dirty.

### ***Allowable Subject Matter***

12. Claims 70-73 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Claims 81 and 82 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: There is no evidence in the prior art searched of a radiation detector with the

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limitation as claimed including a rigid dynamic enclosure with a second (claim 70), third (claim 81) and fourth (claim 82) flexible supporting sleeve surrounding the already existing housing with its supporting sleeve.

Claims 71-73 are dependent from claim 70.

### ***Conclusion***

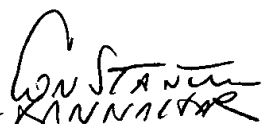
15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Sekela et al. (U. S. Patent 6222192).

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Otilia Gabor whose telephone number is 703-305-0384. The examiner can normally be reached on Monday-Friday between 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 703-308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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May 28, 2002

  
CONSTANTINE HANNAHER  
PRIMARY EXAMINER  
GROUP ART UNIT 2878